JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- SEPTEMBER 2017

B.Tech V Semester

COURSE CODE: 10B11CE513   MAX. MARKS: 15

COURSE NAME: Water Resource Engineering

COURSE CREDITS: 04   MAX. TIME: One Hr

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Assume suitable data if required.

1. Describe in detail the various phenomenon of precipitation. Also explain different fronts and their characteristics. **[5 marks]**

2. The recorded annual rainfall from 5 rain gauge stations in a catchment and the corresponding Thiessen's polygon areas in the map are as follows:

Thiessen's polygonal area(cm^2)	Rainfall (cm)
25	125
30	175
30	225
10	275
5	325

The scale of the map is 1:50000. Estimate the volume and the mean depth of rainfall. Also calculate average annual discharge at outlet in cu.m/sec if runoff coefficient (ratio of runoff to precipitation) of the catchment is 0.3. **[4marks]**

3. The working life of dam built to store irrigation water is expected to be 100 years. The spillway capacity is designed to accommodate the peak flood having a return period of 500 years. Calculate the risk of failure of the dam. **[2 marks]**

4. Give a brief description of the configuration and working of Symon's gauge with the help of a neat figure. **[4 marks]**

CE-3, BT